

WHAT IS CLAIMED IS:

- 1 1. An access method in a storage device comprising:
2 receiving received data in connection with a first operation on the storage
3 device;
4 performing the first operation if a predetermined data sequence in the received
5 data is not detected; and
6 performing a predetermined operation that is not the first operation in response
7 to detecting the predetermined data sequence in the received data.
- 1 2. The method of claim 1 further comprising performing the first
2 operation in addition to performing the predetermined operation, in response to detecting the
3 predetermined data sequence in the received data.
- 1 3. The method of claim 1 wherein the predetermined operation is
2 performed instead of the first operation, in response to detecting the predetermined data
3 sequence in the received data.
- 1 4. The method of claim 1 wherein the received data further includes a
2 second data sequence in addition to the predetermined sequence, wherein the predetermined
3 operation is indicated by the second data sequence.
- 1 5. The method of claim 1 wherein performing the predetermined
2 operation produces result data.
- 1 6. The method of claim 5 further comprising receiving a read operation
2 on the storage device and producing the result data in response to the read operation.
- 1 7. The method of claim 6 wherein the step of producing result data
2 includes storing the result data in a memory component of the storage device at a
3 predetermined location in the memory component, wherein the read operation includes
4 address information indicative of the predetermined location.
- 1 8. The method of claim 1 wherein the first operation is a write operation,
2 wherein performing the first operation includes storing the received data in a memory
3 component of the storage device.

1 9. The method of claim 8 wherein performing the predetermined
2 operation produces result data that is stored in a data store other than the memory component.

1 10. The method of claim 8 wherein performing the predetermined
2 operation produces result data that is stored in the memory component.

1 11. The method of claim 8 wherein the received data comprises an address
2 portion and a data portion, wherein the data portion comprises the predetermined data
3 sequence.

1 12. The method of claim 11 wherein the data portion further comprises a
2 command identifier that identifies the predetermined operation.

1 13. The method of claim 8 wherein the received data comprises an address
2 portion and a data portion, wherein the address portion comprises the predetermined data
3 sequence.

1 14. The method of claim 13 wherein the data portion comprises a
2 command identifier that identifies the predetermined operation.

1 15. A storage device having a memory component and a control
2 component, the control component configured to operate according to the method of claim 1.

1 16. The storage device of claim 15, wherein the control component is
2 further configured to communicate with a computing device.

1 17. A method for operating a data storage device comprising:
2 receiving first data associated with a write operation;
3 if the first data includes a predetermined sequence, then performing at least a
4 first operation other than the write operation; and
5 if the first data does not include the predetermined sequence, then performing
6 the write operation including storing at least some of the first data to a memory.

1 18. The method of claim 17 wherein performing the first operation
2 generates result data, wherein responsive to a subsequent read operation, the result data is
3 produced as a response to the read operation.

1 19. The method of claim 18 further comprising storing the result data in a
2 data store other than the memory.

1 20 The method of claim 18 further comprising storing the result data in
2 the memory.

1 21. The method of claim 20 wherein the result data is stored beginning at a
2 predetermined location in memory and the subsequent read operation includes an address
3 indicative of the predetermined location.

1 22. A method for accessing a storage device comprising:
2 communicating a first write operation to a storage device, the first write
3 operation having associated therewith first data comprising address data and write data,
4 wherein the write data is written to a memory location of a memory indicated by the address
5 data;
6 communicating a second write operation to the storage device, the second
7 write operation having associated therewith second data comprising a predetermined data
8 sequence, wherein the storage device performs a predetermined operation other than a write
9 operation in response to detecting the predetermined data sequence; and
10 communicating a read operation subsequent to the second write operation,
11 wherein the predetermined operation produces result data,
12 wherein the storage device responds to the read operation with the result data.

1 23 The method of claim 22 wherein the step of communicating a first
2 write operation is performed in response to performing a first write operation to a file, the
3 step of communicating a second write operation is performed in response to performing a
4 second write operation to the file, and the step of communicating a read operation is
5 performed in response to performing a read operation on the file.

1 24. The method of claim 23 wherein the steps of performing a second
2 write operation to the file and performing a read operation on the file are performed in
3 response to making an API (application programmer's interface) call to perform the
4 predetermined operation in the storage device.

1 25. The method of claim 24 wherein the steps of making an API call,
2 performing a second write operation to the file, and performing a read operation on the file
3 are performed by program code which comprise one or more program code portions of an
4 application.

1 26. The method of claim 25 wherein the step of communicating a first
2 write operation, communicating a second write operation, and communicating a read
3 operation are performed by program code which comprise one or more program code
4 portions of an OS (operating system).

1 27. The method of claim 22 wherein the storage device is configured to
2 perform a plurality of predetermined operations.

1 28. The method of claim 27 wherein the second data further comprises a
2 command data sequence that is indicative of the predetermined operation.

1 29. The method of claim 27 wherein the second data further comprises
2 address data, wherein the predetermined data sequence constitutes the address data.

1 30. The method of claim 22 wherein the result data is stored in a data store
2 other than the memory.

1 31. The method of claim 22 wherein the result data is stored beginning at a
2 predetermined location in the memory.

1 32. A method for accessing a data storage device comprising:
2 communicating an indication to the data storage device to perform a first
3 operation, the first operation being one of a plurality of first device operations;
4 communicating first data to the data storage device, the first data being
5 associated with the first operation;
6 determining whether to perform at least a second operation based on data
7 contained in the first data, the second operation being exclusive of the plurality of first device
8 operations.

1 33. The method of claim 32 wherein the data storage device has a
2 corresponding command set associated with the first device operations, wherein the second

3 operation is not associated with any commands in the command set, wherein the step of
4 communicating an indication is a step of communicating a command from the command set.

1 34. The method of claim 33 wherein the data storage device has only a
2 single corresponding command set.

1 35. The method of claim 32 further comprising performing the second
2 operation instead of the first operation if the first data contains a predetermined sequence of
3 data.

1 36. The method of claim 32 further comprising performing the second
2 operation in addition to performing the first operation if the first data contains a
3 predetermined sequence of data.

1 37. The method of claim 32 wherein the first operation is a write operation
2 and the first data is data to be written by the write operation.

1 38. The method of claim 32 wherein the steps of communicating include
2 asserting signals on one or more signal lines of the data storage device.

1 39. The method of claim 32 wherein the steps of communicating include
2 transmitting data over one or more data lines of the data storage device.

1 40. A method of accessing a storage device comprising:
2 providing a plurality of first operations in the storage device, each first
3 operation having an associated command, thereby defining a command set;
4 providing a plurality of second operations in the storage device, the command
5 set being absent any commands that are associated with the second operations;
6 communicating to the storage device a command associated with one of the
7 first operations, including communicating data associated with the command;
8 detecting a predetermined data sequence in the data associated with the
9 command, and in response thereto, performing one of the second operations; and
10 if the data associated with the command is absent the predetermined data
11 sequence, then performing one of the first operations associated with the command.

1 41. The method of claim 40 wherein performing one of the second
2 operations produces result data.

1 42. The method of claim 40 wherein the data associated with the command
2 includes data indicative of one of the second operations.

1 43. The method of claim 42 wherein the command is a write command.

1 44. The method of claim 42 wherein one of the first operations is
2 associated with the command, the method further comprising performing the associated first
3 command in addition to performing one of the second operations.

1 45. The method of claim 40 further comprising communicating a
2 subsequent command to the storage device, the subsequent command having data associated
3 therewith, wherein the data is indicative of one of the second operations.

1 46. The method of claim 40 wherein performing the second operation
2 produces result data, the method further comprising communicating a subsequent command
3 that is indicative of a read operation, detecting the subsequent command and in response
4 thereto responding with the result data.

1 47. The method of claim 46 wherein the steps of communicating are
2 performed by executing first computer program code.

1 48. The method of claim 47 wherein executing the first program code is
2 performed in response to executing second program code.

1 49. The method of claim 48 wherein the first program code is a constituent
2 part of an operating system, wherein the second program code is a constituent part of an
3 application program.

1 50. A storage device comprising:
2 a memory component having a corresponding command set;
3 a control component operatively coupled to the memory component for
4 writing data to the memory component and for reading data from the memory component;
5 and
6 and interface operably coupled to the control component and configured for
7 communication with a host device,

8 the control component configured to perform a plurality of device operations
9 and a plurality of extended operations, wherein each of the device operations is associated
10 with a command in the command set,
11 the control component further configured to detect commands communicated
12 from a host device wherein the device operation associated with a communicated command
13 can be performed,
14 the control component further configured to detect a predetermined sequence
15 of data in first data associated with a first command from the command set, and to perform
16 one of the extended operations in response to detecting the predetermined sequence of data.

1 51. The device of claim 50 wherein the extended operations do not have
2 associated commands in the command set.

1 52. The device of claim 50 further comprising a data store, wherein at least
2 one of the extended operations generates result data that can then be stored in the memory
3 component.

1 53. The device of claim 50 wherein at least one of the extended operations
2 generates result data, wherein the control component is further configured to store the result
3 data beginning at a predetermined location in the memory.

1 54. The device of claim 50 wherein the first command is a write command
2 and the first data comprises an address portion and a data portion.

1 55. The device of claim 54 wherein the data portion comprises the
2 predetermined sequence of data and an extended command specifier, wherein the control
3 component is further configured to perform one of the extended operations based on the
4 extended command specifier.

1 56. The device of claim 54 wherein the address portion comprises the
2 predetermined sequence of data and the data portion comprises an extended command
3 specifier, wherein the control component is further configured to perform one of the extended
4 operations based on the extended command specifier.

1 57. The device of claim 50 wherein the control component is further
2 configured to perform a device operation corresponding to the first command in addition to
3 performing the extended operation in response to detecting the predetermined sequence of
4 data.

1 58. The device of claim 50 the extended operation is performed instead of
2 performing a device operation corresponding to the first command in response to detecting
3 the predetermined sequence of data.

1 59. The device of claim 50 wherein the control component comprises a
2 controller and one or more processing units, the one or more processing units configured to
3 perform the extended operations, the controller comprising logic to detect the predetermined
4 sequence of data, the controller operatively coupled to operate the one or more processing
5 units to perform an extended operation in response to detecting the predetermined sequence
6 of data.

1 60. A host device configured to communicate with the storage device of
2 claim 50 comprising first software for communicating one or more of the commands to the
3 storage device.

1 61. The host device of claim 60 further comprising second software for
2 performing file input and file output operations, wherein the first software communicates one
3 or more of the commands to the storage device in response to the file input and file output
4 operations.

1 62. A method for accessing a memory device, the memory device
2 configured to perform a plurality of first operations and a plurality of second operations, each
3 of the first operations having an associated command, the memory device further configured
4 to respond to one of the commands communicated thereto by performing its associated first
5 operation, the method comprising:

6 detecting a predetermined sequence of two or more commands communicated
7 to the storage device;

8 if the predetermined sequence of two or more commands is detected, then
9 performing one of the second operations.

1 63. The method of claim 62 wherein the second operation that is
2 performed is based on the sequence of commands comprising the predetermined sequence.

1 64. The method of claim 62 wherein if a second predetermined sequence
2 of two or more commands is detected then performing another one of the second operations.